

ADJUSTING COMBINES FOR EFFICIENT HARVEST

August is always a busy month on Cache Valley farms. Our usual busy schedule with livestock and the growing of crops is somewhat complicated by the pressing harvest of small grains. Unfortunately, grain combines are generally used for only a few weeks during the year. As such, it is often a challenge to have them adjusted properly to minimize losses as small grains are harvested. Every bit of grain lost during harvest or storage is income or feed value that is lost to farming operations. A good crop is only as good as the grain that makes it from the field to the bin.

It is impossible to avoid some loss during harvest. Some “experts” suggest that by properly adjusting and operating a combine, losses from field to bin will not exceed 1 percent. (If wheat losses were spread uniformly over an acre, approximately 21 seeds per square foot = 1 bushel per acre.) Other data shows that typical losses average 3 to 4 percent of the total crop yield. Unfortunately, it is not uncommon for yield loss to be 15 percent, and sometimes even higher. One always knows how successful the harvest has been by looking at sprouted grain in windrows after the straw has been hauled.

Agricultural engineers from University of Nebraska provide the following suggestions:

First, ensure that harvest equipment is clean and in working order before harvest begins. Thoroughly examine the combine and grain trucks with a critical eye. Look for wear or damage to belts, bearings, and hoses. Either replace worn parts or have them readily available on-farm so harvest delays can be minimized. To help diminish grain damage, smooth or file down any sharp or rough edges that are likely to contact grain. Having the dealer do a pre-harvest check on the combine may prevent downtime in the middle of harvest and prove to be money well spent. Double check truck beds for leakage—two or three bushels lost per trip can become very costly.

Second, if you’re using yield monitors, loss monitors, or other gauges, check to be sure they’re properly adjusted and calibrated to provide accurate readouts. Making “on-the-go” decisions based on inaccurate information can be costly.

Third, adjust your combine for current conditions and expected yields. Combines perform at peak efficiency when harvesting standing grain uniformly flowing into the machine. Erratic crop feed into the combine complicates threshing, increases field loss, and usually results in kernel damage. Grain that is lodged requires methodical treatment. Excessive weed growth will also hamper the harvest. For a good initial setting, always check the thresher, concave, sieve and fan settings in the Operator’s Manual.

Fourth, once these adjustments are made, continue monitoring the process throughout the day and be prepared to readjust settings. Conditions in mid afternoon may be totally different than when you started the day. Check the amount of crop material going into the grain tank as well as the amount of grain that may be lost out the back of the combine. Spot checks in the field throughout the day can be very important and eliminate unnecessary losses. With today’s monitors, farmers can do a lot of management from the cab, but they also need to get out of the cab periodically to check for losses.

Additional combine adjustments can be fine-tuned according to operator experience and judgment to field conditions.

Finally, try to run the combine at full capacity to increase harvest efficiency and reduce grain damage. With too little crop going through, the action can become too aggressive and the grain will be damaged. Maintaining grain quality pays through better prices at the elevator or grain that stores better with fewer complications.

Taking a little time at the onset of harvest and intermittently throughout the harvest can help ensure a productive and successful harvest. Combine operators who are willing to determine the magnitude of their losses and determine the necessary adjustments, will be rewarded with greater net returns for the investment already made in the raising of a crop. Taking time to properly prepare your combine before harvest and adjust periodically during the harvest can pay big dividends.